

To ship March 11

Work Order ID 142041

142041

Page 1

Item ID: D119-646-314

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Skidtube Protector, RH

Start Date: 2/23/2016 Start Qty: 1.00

1

Cust Item ID:

Required Date: 3/14/2016 Req'd Qty: 1.00

1

Customer:

Reference:

24

Approvals:

Process Plan:

34

Date: 20160223

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

DSI9734

A

DAS

6
9-89

MCS

MAR 24 2016

100

Document Control

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D119-646-313 CHG001

9-89

MAR 24 2016

110

Pick Kit

0.00

110

Packaging

Memo

0.00

Packaging

DAS
6
9-89

MAR 08 2016

120

QC4- 100% Inspect kits for completeness

0.00

120

QC

Memo

0.00

Quality Control

DAS

2
9-89

MAR 24 2016

H-FO

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 15%;">Skid-tube ☐</td> <td style="width: 15%;">Cross tube ☐</td> <td style="width: 15%;">Water Jet ☐</td> <td style="width: 15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																							
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Large Fab ☐	Composite ☐	Supplier ☐																																																													
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval																																																								
Description Work Order Deviation				Disposition				Completed By																																																							
								Lead hand / Supervisor Approval Verification																																																							
								QC / QA Coordinator Approval																																																							
Root Cause		FAULT CATEGORY																																																													
Environment ☐	Design ☐	Doc/Data ☐	Equip/Tooling ☐	Handling/Pre ☐	Material ☐	Internal Transport ☐	Tribal Knowledge ☐	LOA ☐	Substation ☐	Past Expiry Date ☐	Misidentified ☐	No Re-verification ☐	Operator ☐	Offset/Setup ☐	Supplier ☐	Training ☐	Use for Testing ☐	Poor Information ☐	Rushing ☐	Product Improvement ☐	Process Improvement ☐	Manufacturing Process ☐	Past Due ☐	Pressure/Forced ☐	Bending ☐	Centre Not Concentric ☐	Cracks ☐	Crimp/Kink/Ripple/Wave ☐	Cuffs ☐	Crushing ☐	Heat Treat ☐	Wave/Twist in Tube ☐	Marks/Chatter ☐	Temperature/Cure ☐	Set-up ☐	BOM/Route ☐	Broken/Damage/Defect ☐	Inspection Incomplete/Unqualified ☐	Contamination ☐	Countersink ☐	Cut Too Short ☐	Instructions Incomplete/Unclear ☐	Drill Holes ☐	Power Loss/Surge ☐	Folio/Program ☐	Grain ☐	Weld ☐	Wrong Stock Pulled ☐	Out of Sequence ☐	Off-set ☐	Mislabeled ☐	Fit/Function ☐	Misaligned/off center ☐	Positioned Wrong ☐	Outside Dimensions ☐	Over/Under tolerance ☐	Part Incorrect ☐	Part Lost/Missing ☐	Part Moved ☐	Drawing ☐	Finish ☐	Misread ☐	Turning Sequence ☐
OTHER : ☐																																																															

Page 2

MAR 24 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

February 23, 2016 4:13:10 PM

Page 1

Work Order ID: 142041

142041

Parent Item: D119-646-314

D119-646-314

Parent Item Name: Skidtube Protector, RH

Start Date: 2/23/2016

Required Date: 3/11/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 15.12.10 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3904-1 Washer *D3904-1* DAS 27 9-89		Manufactured	No				Each	188.0000	**	6		DAS 26 9-89 MAR 08 2016	
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				FP001				188					
				133289				88					
				141452				100					
D4506-3 Washer *D4506-3* DAS 27 9-89		Manufactured	No				Each	0.0000	**	6		DAS 26 9-89 MAR 08 2016	
D5369-2 Cable Guard *D5369-2* DAS 27 9-89		Manufactured	No				Each	0.0000	**	1		DAS 26 9-89 MAR 21 2016	
D5371-2 Hook *D5371-2* DAS 27 9-89		Manufactured	No				Each	1.0000	**	1		DAS 26 9-89 MAR 24 2016	
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				prelim				1					
				139942				1					
D5372-1 Plug *D5372-1* DAS 27 9-89		Manufactured	No				Each	0.0000	**	1		DAS 26 9-89 MAR 24 2016	

Picklist Print

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Page 2

Work Order ID: 142041

Parent Item: D119-646-314

Parent Item Name: Skidtube Protector, RH

142041

D119-646-314

Start Date: 2/23/2016

Required Date: 3/11/2016

Start Qty: 1.00

Required Qty: 1.00

D5374-1 Manufactured No

Each 20.0000

D5374-1

Bushing

**

6
ex. B139980
DAS 26 9-89

Location

Loc Qty

Loc Code

prelim

20

139856

8

139980

12

DAS
27
9-89

D5374-3 Manufactured No

Each 26.0000

D5374-3

Bushing

**

DAS
6
9-89

Location

Loc Qty

Loc Code

prelim

6

139857

6

ST163

20

139981

20

DAS
27
9-89

D5376-1 Manufactured No

Each 1.0000

D5376-1

Drilling Tool

**

DAS
6
9-89

Location

Loc Qty

Loc Code

ST365

1

141661

1

AN3-45A Purchased No

Each 8.0000

AN3-45A

Bolt

**

DAS
26
9-89

Location

Loc Qty

Loc Code

ST346

8

m133812

8

DAS
27
9-89

MAR 08 2016

DAS
6
9-89

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Page 3

Work Order ID: 142041

Parent Item: D119-646-314

Parent Item Name: Skidtube Protector, RH

142041

D119-646-314

Start Date: 2/23/2016

Required Date: 3/11/2016

Start Qty: 1.00

Required Qty: 1.00

AN3-47A Purchased No

Each 12.0000

AN3-47A

Bolt

DAS
27
9-89

Location

Loc Qty

Loc Code

ST346

12

m134257

12

AN3-50A Purchased No

Each 19.0000

AN3-50A

Bolt

DAS
27
9-89

Location

Loc Qty

Loc Code

ST346

19

m133855

19

NAS1149D0332J Purchased No

Each 1,332.000

NAS1149D0332.J

Washer

DAS
27
9-89

Location

Loc Qty

Loc Code

CA

14

m129682

14

FP001

44

m129682

44

GA

131

m132677

131

ST260a

600

m133988

600

ST264

543

m133498

543

DAS
6
9-89
MAR 08 2016

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Page 4

Work Order ID: 142041

Parent Item: D119-646-314

Parent Item Name: Skidtube Protector, RH

142041

D119-646-314

Start Date: 2/23/2016

Required Date: 3/11/2016

Start Qty: 1.00

Required Qty: 1.00

MS21042L3

Purchased

No

Each

1,723.000

MS21042L3

Nut

**

10

DAS
26
9-89

DAS
6
9-89

MAR 08 2016

Location

Loc Qty

Loc Code

FP001

163

m133790

163

GA

130

m133790

130

ST304

1430

m134039

1430

DAS

27

9-89

10

DART SERVICE INSTRUCTION

**TO AMEND INSTALLATION INSTRUCTIONS IIN-D119-646 REV. C
AND INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D119-646 REV. 2**
REF FAA STC: SR02024SE
REF EASA STC: 10040294

1.0 PURPOSE:

The purpose of this Dart Service Instructions is to add D119-646-313/-314 Skidtube Protector Kit to make the D119-646-011/-012/-111/-112/-211/-212 Skidtube Kits compatible with the 109-0812-68-105 Hoist Structural Provision Kit and the 109-0816-18-301 Rappelling Kit. The D119-646-313 Skidtube Protector, LH replaces the 109-B710-05-201 kit and the D119-646-314 Skidtube Protector, RH replaces the 109-B710-05-202 kit.

2.0 D119-646-313/-314 INSTALLATION:

These instructions are for modifying the D119-646-011/-012/-111/-112 Skidtube Installations.

- 2.1 Remove D3492-045 Plug Assemblies from two locations on each side of the skidtube as shown in Figure 3.
- 2.2 Position D5376-1 drilling jig tool with the arrow pointing fwd as shown in Figure 3. Use 2x AN3-45A bolts to hold the jig in place. Transfer drill 4x $\varnothing 0.129$ " (#30 drill) holes from D5376-1 drilling jig to skidtube ridge as shown in Figure 3. **Caution:** Drill perpendicular to the skidtube ridge.
- 2.3 Remove drilling jig. Using a 5/16" drill, open up the pilot holes and drill through the skidtube ridge and center web inside of the skidtube. **Caution:** Drill perpendicular to the skidtube ridge.
- 2.4 Countersunk 4x 5/16" holes to $\varnothing 0.348$ " (8.84mm) x 100° as shown in Figure 3 and deburr.
- 2.5 Repeat steps 2.2 to 2.4 for the opposite side of the skidtube.
- 2.6 Vacuum the debris from inside of the skidtube. Touch up affected area using (Alodine 1200 or 1201) per MIL-DTL-5541.
- 2.7 Install 8x D5374-3 Bushings in the new holes. Seal bushings with Sikaflex-241/-291 or Proseal 890 or MIL-S-8802 Class 'B2' sealant as shown in Section C-C.
- 2.8 Remove all D3492-045 Plug Assemblies from skidtube fwd of the ground handling wheel lugs.
- 2.9 If the D119-646-314 Skidtube Protector Kit is required for hoisting operations on the RH side of the aircraft install D5372-1 Plug using 4x AN3-45A bolts, 8x NAS11490D332J washer and 4x MS21042L3 nuts as shown in Section C-C and Figure 4 Detail E. Torque bolts to 15-25 in-lbs (1.7-2.8 N-m).
- 2.10 If the D119-646-313 Skidtube Protector Kit is required for hoisting operations on the LH side of the aircraft install D5372-1 Plug using 4x AN3-45A bolts, 8x NAS11490D332J washer and 4x MS21042L3 nuts as shown in Section C-C and Figure 4 Detail E. Torque bolts to 15-25 in-lbs (1.7-2.8 N-m).
- 2.11 If the D119-646-314 Skidtube Protector Kit is required for rappelling operations on the RH side of the aircraft install D5371-2 Hook using 4x AN3-45A bolts, 8x NAS11490D332J washer and 4x MS21042L3 nuts as shown in Section C-C and Figure 5 Detail F. Torque bolts to 15-25 in-lbs (1.7-2.8 N-m).
- 2.12 If the D119-646-313 Skidtube Protector Kit is required for rappelling operations on the LH side of the aircraft install D5371-1 Hook using 4x AN3-45A bolts, 8x NAS11490D332J washer and 4x MS21042L3 nuts as shown in Section C-C and Figure 5 Detail F. Torque bolts to 15-25 in-lbs (1.7-2.8 N-m).
- 2.13 Install D5369-2 Cable Guard on the RH side of the aircraft using 6x AN3-47A bolts, 6x D5374-1 Bushings, 6x D4506-3 Washers, 12x NAS11490D332J washers, 6x MS21042L3 nuts as shown in Figure 1 Section A-A. Torque bolts to 15-25 in-lbs (1.7-2.8 N-m).
- 2.14 Install D5369-1 Cable Guard on the LH side of the aircraft using 6x AN3-47A bolts, 6x D5374-1 Bushings, 6x D4506-3 Washers, 12x NAS11490D332J washers, 6x MS21042L3 nuts as shown in Figure 1 Section A-A. Torque bolts to 15-25 in-lbs (1.7-2.8 N-m).
- 2.15 Update aircraft log book to indicate installation of the D119-646-313/-314 kit and adjust weight and balance record for the aircraft with weight and balance data provided in Section 5.0 of this document.

NOTE: Additional NAS11490D332J washers may be installed under the nuts to ensure 1.5-4 threads in safety on the bolts. Although not generally necessary, it is also acceptable to replace the AN3 bolts provided with longer or shorter AN3 bolts, if required.

20160223

SLA 142041

A	NEW ISSUE		RF	15.12.10
REV.	DESCRIPTION		BY	DATE
DESIGN	RF	DART AEROSPACE USA, INC. EUGENE, OR		
DRAWN	RF			
CHECKED	HS	DRAWING NO.	REV. A	
MFG. APPR.	N/A	DSI 9734	SHEET 1 OF 8	
APPROVED	HS	TITLE	SCALE	
DE APPR.	<i>[Signature]</i>	SKIDTUBE PROTECTOR KIT	NTS	
DATE	15.12.10		COPYRIGHT © 2014 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

3.0 D119-646-313/-314 INSTALLATION:

These instructions are for modifying the D119-646-211/-212 Skidtube Installations.

- 3.1 Temporarily remove D3849-043 Training Wearplate from aft end of the skidtube per ICA-D119-646 Section 32.
- 3.2 Position D5376-1 drilling jig tool with the arrow pointing fwd as shown in Figure 3. Use 2x AN3-45A bolts to hold the jig in place. Transfer drill 4x $\varnothing 0.129$ " (#30 drill) holes from D5376-1 drilling jig to skidtube ridge as shown in Figure 3. **Caution:** Drill perpendicular to the skidtube ridge.
- 3.3 Remove drilling jig. Using a 5/16" drill, open up the pilot holes and drill through the skidtube ridge and center web inside of the skidtube. **Caution:** Drill perpendicular to the skidtube ridge.
- 3.4 Countersunk 4x 5/16" holes to $\varnothing 0.348$ " (8.84mm) x 100° as shown in Figure 3 and deburr.
- 3.5 Repeat steps 3.2 to 3.4 for the opposite side of the skidtube.
- 3.6 Vacuum the debris from inside of the skidtube. Touch up affected area using (Alodine 1200 or 1201) per MIL-DTL-5541.
- 3.7 Install 8x D5374-3 Bushings in the new holes. Seal bushings with Sikaflex-241/-291 or Proseal 890 or MIL-S-8802 Class 'B2' sealant as shown in Section C-C.
- 3.8 Remove and discard all hardware attaching the training wearplates in front of the skidtube ground handling lugs.
- 3.9 If the D119-646-314 Skidtube Protector Kit is required for hoisting operations on the RH side of the aircraft install D5372-1 Plug using 4x AN3-45A bolts, 8x NAS11490D332J washer and 4x MS21042L3 nuts as shown in Section C-C and Figure 4 Detail E. Torque bolts to 15-25 in-lbs (1.7-2.8 N-m).
- 3.10 If the D119-646-313 Skidtube Protector Kit is required for hoisting operations on the LH side of the aircraft install D5372-1 Plug using 4x AN3-45A bolts, 8x NAS11490D332J washer and 4x MS21042L3 nuts as shown in Section C-C and Figure 4 Detail E. Torque bolts to 15-25 in-lbs (1.7-2.8 N-m).
- 3.11 If the D119-646-314 Skidtube Protector Kit is required for rappelling operations on the RH side of the aircraft install D5371-2 Hook using 4x AN3-45A bolts, 8x NAS11490D332J washer and 4x MS21042L3 nuts as shown in Section C-C and Figure 5 Detail F. Torque bolts to 15-25 in-lbs (1.7-2.8 N-m).
- 3.12 If the D119-646-313 Skidtube Protector Kit is required for rappelling operation on the LH side of the aircraft install D5371-1 Hook using 4x AN3-45A bolts, 8x NAS11490D332J washer and 4x MS21042L3 nuts as shown in Section C-C and Figure 5 Detail F. Torque bolts to 15-25 in-lbs (1.7-2.8 N-m).
- 3.13 Reinstall the D3849-043 Training Wearplate on the aft end of the skidtube per ICA-D119-646 Section 32, except for hardware under D5369-1/-2 Cable Guard.
- 3.14 Install D5369-2 Cable Guard on the RH side of the aircraft using 6x AN3-50A bolts, 6x D5374-1 Bushings, 6x D3904-1 Washers, 6x MS21042L3 nuts as shown in Figure 2 Section B-B. Torque bolts to 15-25 in-lbs (1.7-2.8 N-m).
- 3.15 Install D5369-1 Cable Guard on the LH side of the aircraft using 6x AN3-50A bolts, 6x D5374-1 Bushings, 6x D3904-1 Washers, 6x MS21042L3 nuts as shown in Figure 2 Section B-B. Torque bolts to 15-25 in-lbs (1.7-2.8 N-m).
- 3.16 Update aircraft log book to indicate installation of the D119-646-313/-314 kit and adjust weight and balance record for the aircraft with weight and balance data provided in Section 5.0 of this document.

NOTE: Additional NAS1149D0332J washers may be installed under the nuts to ensure 1.5-4 threads in safety on the bolts. Although not generally necessary, it is also acceptable to replace the AN3 bolts provided with longer or shorter AN3 bolts, if required.

DESIGN	RF	DART AEROSPACE USA, INC. EUGENE, OR	
DRAWN	RF		
CHECKED	HS	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9734	SHEET 2 OF 8
APPROVED	HS	TITLE	SCALE
DE APPR.		SKIDTUBE PROTECTOR KIT	NTS
DATE	15.12.10	COPYRIGHT © 2014 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

4.0 PARTS LIST:

Qty. -313	Qty. -314	PART NUMBER	DESCRIPTION
X		D119-646-313	SKIDTUBE PROTECTOR, LH
	X	D119-646-314	SKIDTUBE PROTECTOR, RH
6	6	D3904-1	WASHER
6	6	D4506-3	WASHER
1		D5369-1	CABLE GUARD, LH
	1	D5369-2	CABLE GUARD, RH
1		D5371-1	HOOK, LH
	1	D5371-2	HOOK, RH
1	1	D5372-1	PLUG
6	6	D5374-1	BUSHING
8	8	D5374-3	BUSHING
1	1	D5376-1	DRILLING JIG
4	4	AN3-45A	BOLT
6	6	AN3-47A	BOLT
6	6	AN3-50A	BOLT
14	14	NAS1149D0332J	WASHER
10	10	MS21042L3	NUT

5.0 WEIGHT AND BALANCE

The following weight and balance changes are applicable:

Installation	Weight	LONGITUDINAL		LATERAL	
		Arm	Moment	Arm	Moment
D119-646-313 SKIDTUBE PROTECTOR, LH	4.3 lb 1.95 kg	108.1 in 4.3 m	465 in-lb 8.4 kg-m	-43.4 in 1.7 m	-187 in-lb -3.3 kg-m
D119-646-314 SKIDTUBE PROTECTOR, RH	4.3 lb 1.95 kg	108.1 in 4.30 m	465 in-lb 8.4 kg-m	43.4 in 1.7 m	187 in-lb 3.3 kg-m

DESIGN	RF	DART AEROSPACE USA, INC. EUGENE, OR	
DRAWN	RF		
CHECKED	HS	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9734	SHEET 3 OF 8
APPROVED	HS	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	SKIDTUBE PROTECTOR KIT	NTS
DATE	15.12.10	COPYRIGHT © 2014 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

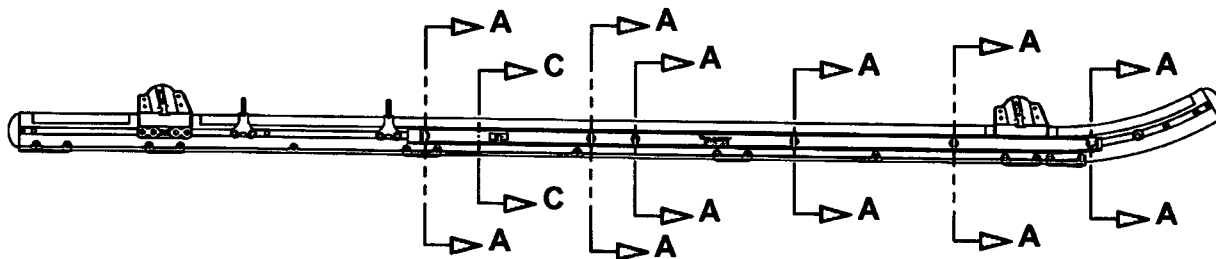


FIGURE 1: D119-646-314 SKIDTUBE PROTECTOR KIT, RH (SHOWN)
 (D119-646-313 SKIDTUBE PROTECTOR, LH (OPPOSITE))
 (SHOWN INSTALLED ON D119-646-011/-012/-111/-112 SKIDTUBES)

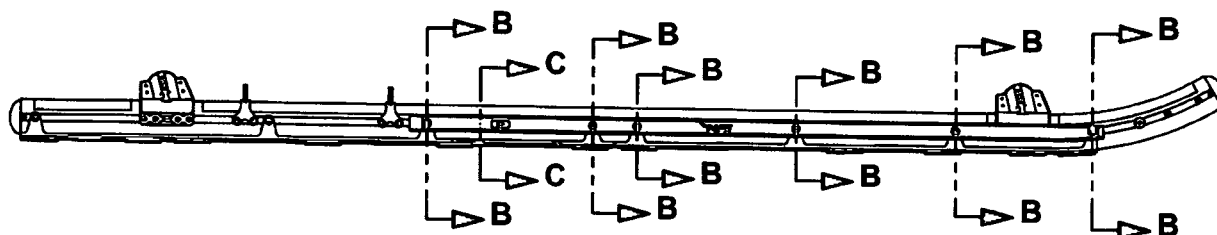
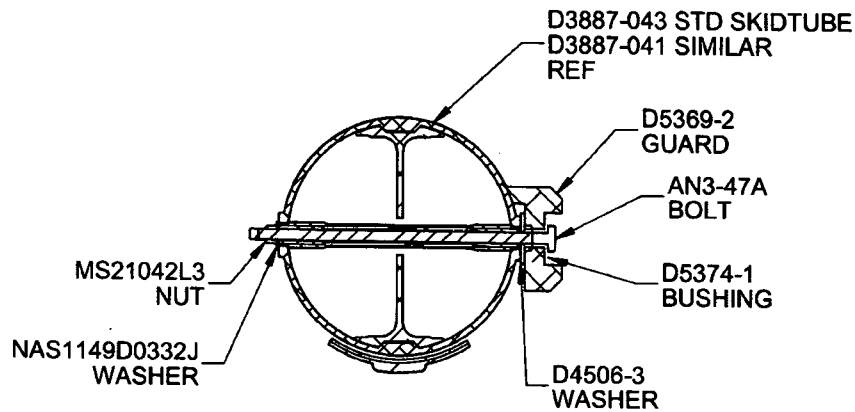
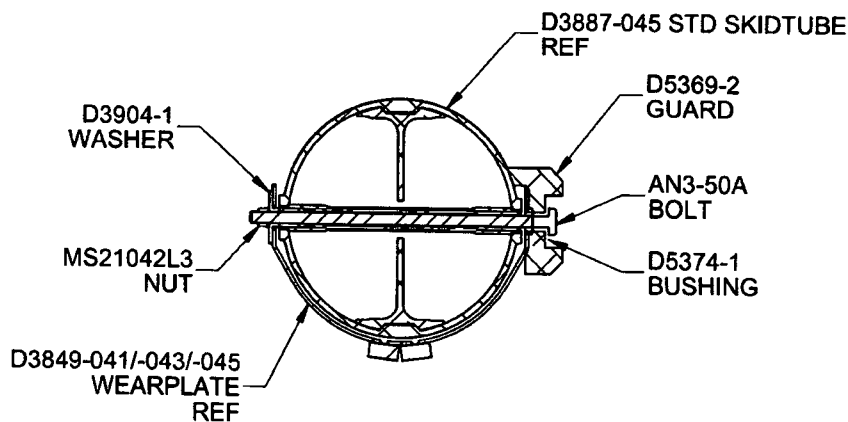


FIGURE 2: D119-646-314 SKIDTUBE PROTECTOR KIT, RH (SHOWN)
 (D119-646-313 SKIDTUBE PROTECTOR, LH (OPPOSITE))
 (SHOWN INSTALLED ON D119-646-211/-212 SKIDTUBES)

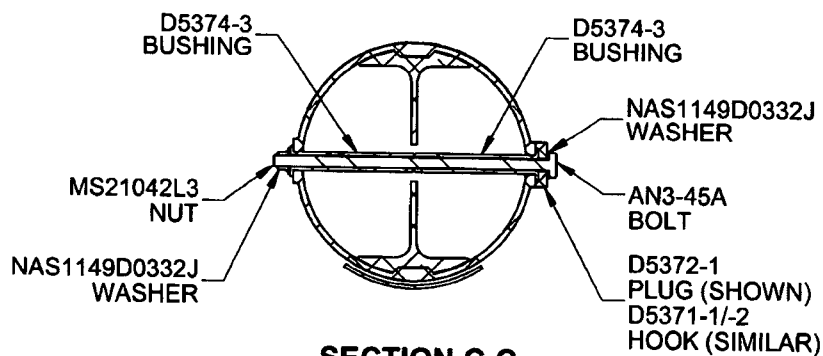
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CHECKED	HS	DRAWING NO.	REV. A
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DE APPR.		SKIDTUBE PROTECTOR KIT	NTS
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SECTION A-A



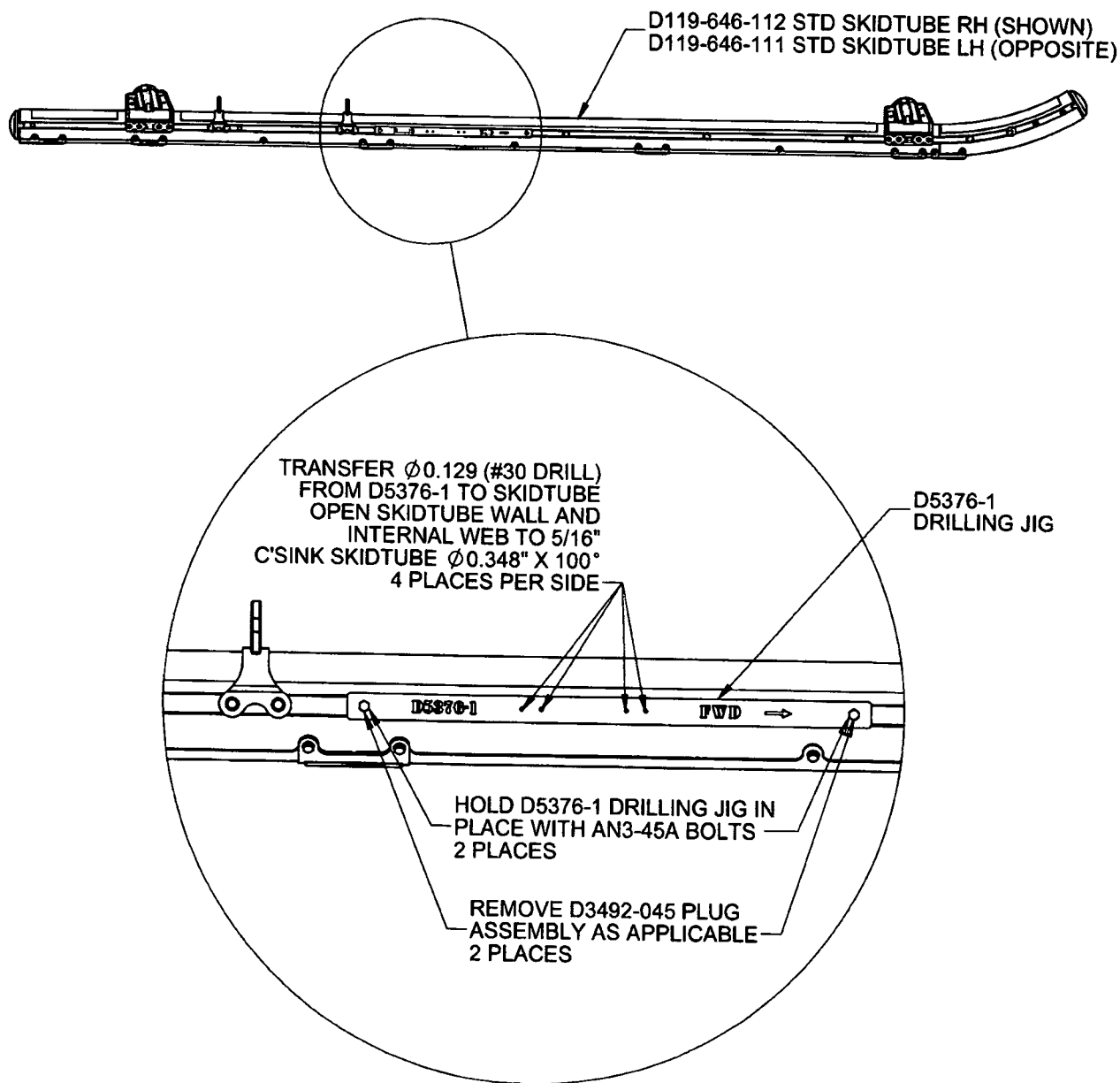
SECTION B-B



SECTION C-C

(D5369-2 NOT SHOWN FOR CLARITY)

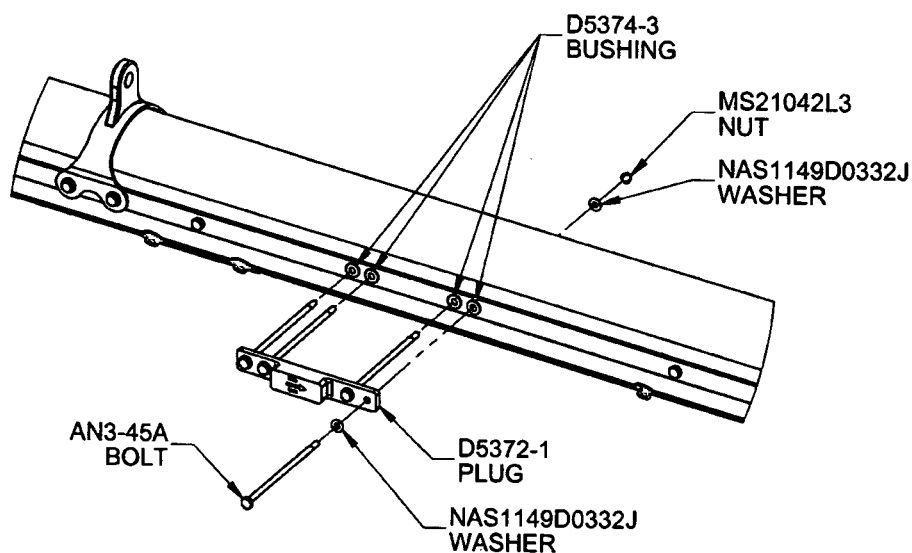
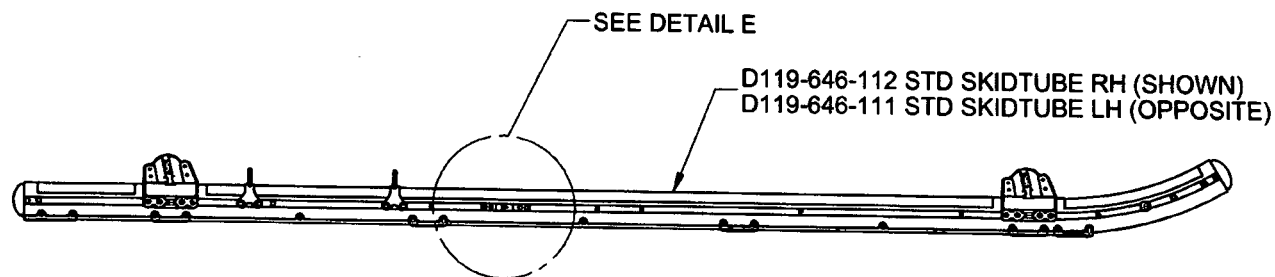
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DETAIL D

FIGURE 3: USING D5376-1 DRILLING JIG

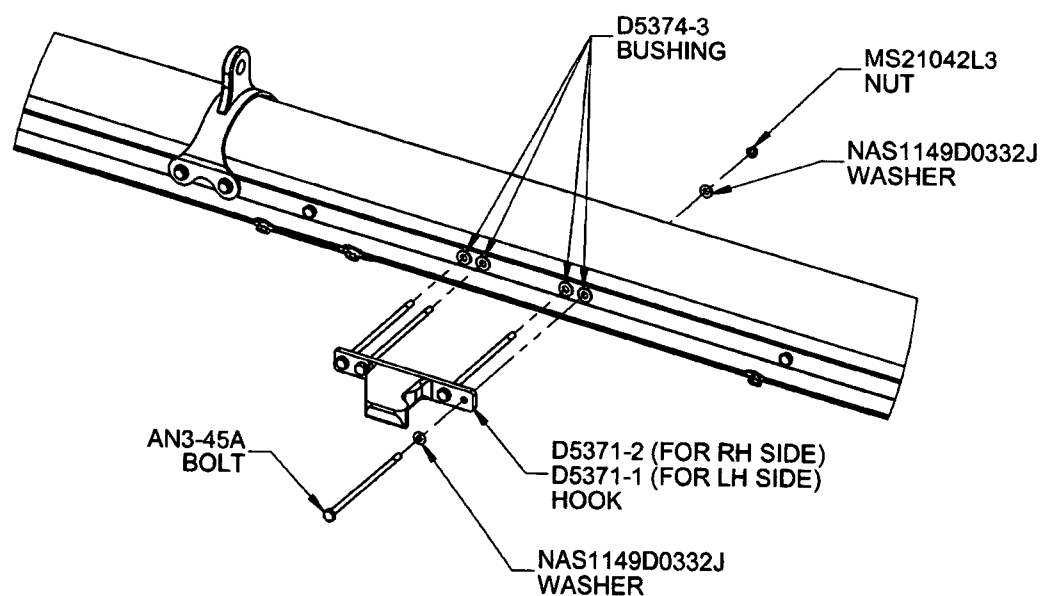
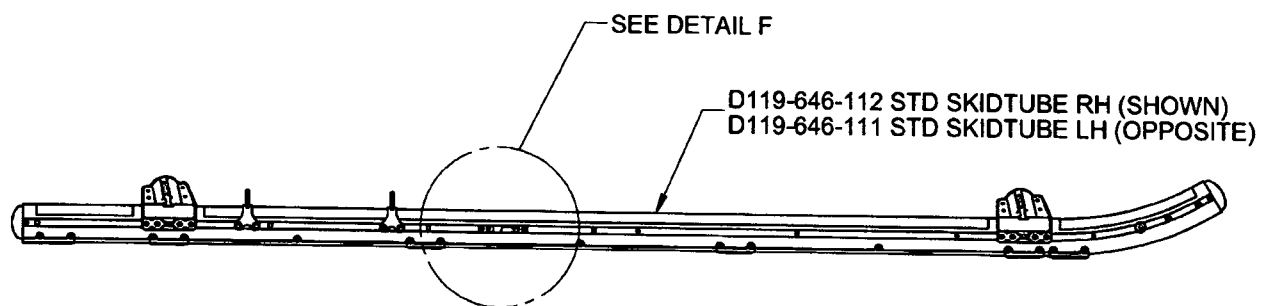
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DETAIL E

FIGURE 4: D5372-1 PLUG INSTALLATION

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DETAIL F

FIGURE 5: D5371-1/-2 HOOK INSTALLATION

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Work Order ID 142041

February 23, 2016 4:13:06 PM

142041

To ship March 11

Page 1

Item ID: D119-646-314

Revision ID:

Item Name: Skidtube Protector, RH

Start Date: 2/23/2016 Start Qty: 1.00

Required Date: 3/14/2016 Req'd Qty: 1.00

Reference: 24

Accept

N900040100

Setup Start

NS1

Stop

NS2

Cust Item ID:

Customer:

Approvals: Process Plan: 34

Date: 20160223

QC:

Date:

SPC (Y/N):

Date:

Run Start

NR1

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

DSI9734

A

100

Document Control

0.00

100

DC

Memo

0.00

Doc.Control -USB or Paperwork

Photocopy bluefile & type labels per PPP D119-646-313 CHG001

MCS MAR 24 2016

110

Pick Kit

0.00

110

Packaging

Memo

0.00

Packaging

MAR 08 2016

120

QC4- 100% Inspect kits for completeness

0.00

120

QC

Memo

0.00

Quality Control

REFERENCE ONLY

4.0 PARTS LIST:

Qty. -313	Qty. -314	PART NUMBER	DESCRIPTION
X		D119-646-313	SKIDTUBE PROTECTOR, LH
	X	D119-646-314	SKIDTUBE PROTECTOR, RH
6	6	D3904-1	WASHER
6	6	D4506-3	WASHER
1		D5369-1	CABLE GUARD, LH
	1	D5369-2	CABLE GUARD, RH
1		D5371-1	HOOK, LH
	1	D5371-2	HOOK, RH
1	1	D5372-1	PLUG
6	6	D5374-1	BUSHING
8	8	D5374-3	BUSHING
1	1	D5376-1	DRILLING JIG
4	4	AN3-45A	BOLT
6	6	AN3-47A	BOLT
6	6	AN3-50A	BOLT
14	14	NAS1149D0332J	WASHER
10	10	MS21042L3	NUT

5.0 WEIGHT AND BALANCE

The following weight and balance changes are applicable:

Installation	Weight	LONGITUDINAL		LATERAL	
		Arm	Moment	Arm	Moment
D119-646-313 SKIDTUBE PROTECTOR, LH	4.3 lb 1.95 kg	108.1 in 4.3 m	465 in-lb 8.4 kg-m	-43.4 in 1.7 m	-187 in-lb -3.3 kg-m
D119-646-314 SKIDTUBE PROTECTOR, RH	4.3 lb 1.95 kg	108.1 in 4.30 m	465 in-lb 8.4 kg-m	43.4 in 1.7 m	187 in-lb 3.3 kg-m

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